

# SEQUENCE LISTING

<110> Liang, Yanbin  
Woodward, David F.

<120> HUMAN COX-1 ALTERNATIVELY SPLICED  
VARIANTS AND METHODS OF USING SAME

<130> 66872-028 (AR5746)

<160> 38

<170> FastSEQ for Windows Version 4.0

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<211> 2022

<212> DNA

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Ile Leu His Val Ala Val Asp Val Ile Arg Glu Ser Arg Glu Met Arg	
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tac gtg cag cag ctg agt ggc tat ttc ctg cag ctg aaa ttt gac cca				1308
Tyr Val Gln Gln Leu Ser Gly Tyr Phe Leu Gln Leu Lys Phe Asp Pro				
	325	330	335	
gag ctg ctg ttc ggt gtc cag ttc caa tac cgc aac cgc att gcc atg				1356
Glu Leu Leu Phe Gly Val Gln Phe Gln Tyr Arg Asn Arg Ile Ala Met				
	340	345	350	
gag ttc aac cat ctc tac cac tgg cac ccc ctc atg cct gac tcc ttc				1404
Glu Phe Asn His Leu Tyr His Trp His Pro Leu Met Pro Asp Ser Phe				
	355	360	365	
aag atc ggt ggg ggc agg aac atg gac cac cac atc ctg cat gtg gct				1452
Lys Ile Gly Gly Gly Arg Asn Met Asp His His Ile Leu His Val Ala				
	370	375	380	385
gtg gat gtc atc agg gag tct cgg gag atg cgg ctg cag ccc ttc aat				1500
Val Asp Val Ile Arg Glu Ser Arg Glu Met Arg Leu Gln Pro Phe Asn				
	390	395	400	
gag tac cgc aag agg ttt ggc atg aaa ccc tac acc tcc ttc cag gag				1548
Glu Tyr Arg Lys Arg Phe Gly Met Lys Pro Tyr Thr Ser Phe Gln Glu				
	405	410	415	
ctc gta gga gag aag gag atg gca gca gag ttg gag gaa ttg tat gga				1596
Leu Val Gly Glu Lys Glu Met Ala Ala Glu Leu Glu Glu Leu Tyr Gly				
	420	425	430	
gac att gat gcg ttg gag ttc tac cct gga ctg ctt ctt gaa aag tgc				1644
Asp Ile Asp Ala Leu Glu Phe Tyr Pro Gly Leu Leu Leu Glu Lys Cys				
	435	440	445	
cat cca aac tct atc ttt ggg gag agt atg ata gag att ggg gct ccc				1692
His Pro Asn Ser Ile Phe Gly Glu Ser Met Ile Glu Ile Gly Ala Pro				
	450	455	460	465
ttt tcc ctc aag ggt ctc cta ggg aat ccc atc tgt tct ccg gag tac				1740
Phe Ser Leu Lys Gly Leu Leu Gly Asn Pro Ile Cys Ser Pro Glu Tyr				
	470	475	480	
tgg aag ccg agc aca ttt ggc ggc gag gtg ggc ttt aac att gtc aag				1788
Trp Lys Pro Ser Thr Phe Gly Gly Glu Val Gly Phe Asn Ile Val Lys				
	485	490	495	
acg gcc aca ctg aag aag ctg gtc tgc ctc aac acc aag acc tgt ccc				1836
Thr Ala Thr Leu Lys Lys Leu Val Cys Leu Asn Thr Lys Thr Cys Pro				
	500	505	510	
tac gtt tcc ttc cgt gtg ccg gat gcc agt cag gat gat ggg cct gct				1884

Tyr Val Ser Phe Arg Val Pro Asp Ala Ser Gln Asp Asp Gly Pro Ala  
 515 520 525

gtg gag cga cca tcc aca gag ctc tga ggggcaggaa agcagcattc 1931  
 Val Glu Arg Pro Ser Thr Glu Leu \*  
 530 535

tggaggggag agctttgtgc ttgtcattcc agagtgtga ggccagggct gatggtctta 1991  
 aatgctcatt ttctggtttg gcatggtgag tggtgggggt gacatttaga actttaagtc 2051  
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 <213> Homo sapiens

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 His Gln Gly Ile Cys Val Arg Phe Gly Leu Asp Arg Tyr Gln Cys Asp  
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 Cys Thr Arg Thr Gly Tyr Ser Gly Pro Asn Cys Thr Ile Pro Gly Leu  
 35 40 45  
 Trp Thr Trp Leu Arg Asn Ser Leu Arg Pro Ser Pro Ser Phe Thr His  
 50 55 60  
 Phe Leu Leu Thr His Gly Arg Trp Phe Trp Glu Phe Val Asn Ala Thr  
 65 70 75 80  
 Phe Ile Arg Glu Met Leu Met Arg Leu Val Leu Thr Val Arg Ser Asn  
 85 90 95  
 Leu Ile Pro Ser Pro Pro Thr Tyr Asn Ser Ala His Asp Tyr Ile Ser  
 100 105 110  
 Trp Glu Ser Phe Ser Asn Val Ser Tyr Tyr Thr Arg Ile Leu Pro Ser  
 115 120 125  
 Val Pro Lys Asp Cys Pro Thr Pro Met Gly Thr Lys Gly Lys Lys Gln  
 130 135 140  
 Leu Pro Asp Ala Gln Leu Leu Ala Arg Arg Phe Leu Leu Arg Arg Lys  
 145 150 155 160  
 Phe Ile Pro Asp Pro Gln Gly Thr Asn Leu Met Phe Ala Phe Phe Ala  
 165 170 175  
 Gln His Phe Thr His Gln Phe Phe Lys Thr Ser Gly Lys Met Gly Pro  
 180 185 190  
 Gly Phe Thr Lys Ala Leu Gly His Gly Val Asp Leu Gly His Ile Tyr  
 195 200 205  
 Gly Asp Asn Leu Glu Arg Gln Tyr Gln Leu Arg Leu Phe Lys Asp Gly  
 210 215 220  
 Lys Leu Lys Tyr Gln Val Leu Asp Gly Glu Met Tyr Pro Pro Ser Val  
 225 230 235 240  
 Glu Glu Ala Pro Val Leu Met His Tyr Pro Arg Gly Ile Pro Pro Gln  
 245 250 255  
 Ser Gln Met Ala Val Gly Gln Glu Val Phe Gly Leu Leu Pro Gly Leu  
 260 265 270  
 Met Leu Tyr Ala Thr Leu Trp Leu Arg Glu His Asn Arg Val Cys Asp  
 275 280 285  
 Leu Leu Lys Ala Glu His Pro Thr Trp Gly Asp Glu Gln Leu Phe Gln  
 290 295 300

Thr Thr Arg Leu Ile Leu Ile Gly Glu Thr Ile Lys Ile Val Ile Glu  
 305 310 315 320  
 Glu Tyr Val Gln Gln Leu Ser Gly Tyr Phe Leu Gln Leu Lys Phe Asp  
 325 330 335  
 Pro Glu Leu Leu Phe Gly Val Gln Phe Gln Tyr Arg Asn Arg Ile Ala  
 340 345 350  
 Met Glu Phe Asn His Leu Tyr His Trp His Pro Leu Met Pro Asp Ser  
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 Phe Lys Ile Gly Gly Gly Arg Asn Met Asp His His Ile Leu His Val  
 370 375 380  
 Ala Val Asp Val Ile Arg Glu Ser Arg Glu Met Arg Leu Gln Pro Phe  
 385 390 395 400  
 Asn Glu Tyr Arg Lys Arg Phe Gly Met Lys Pro Tyr Thr Ser Phe Gln  
 405 410 415  
 Glu Leu Val Gly Glu Lys Glu Met Ala Ala Glu Leu Glu Glu Leu Tyr  
 420 425 430  
 Gly Asp Ile Asp Ala Leu Glu Phe Tyr Pro Gly Leu Leu Glu Lys  
 435 440 445  
 Cys His Pro Asn Ser Ile Phe Gly Glu Ser Met Ile Glu Ile Gly Ala  
 450 455 460  
 Pro Phe Ser Leu Lys Gly Leu Leu Gly Asn Pro Ile Cys Ser Pro Glu  
 465 470 475 480  
 Tyr Trp Lys Pro Ser Thr Phe Gly Gly Glu Val Gly Phe Asn Ile Val  
 485 490 495  
 Lys Thr Ala Thr Leu Lys Lys Leu Val Cys Leu Asn Thr Lys Thr Cys  
 500 505 510  
 Pro Tyr Val Ser Phe Arg Val Pro Asp Ala Ser Gln Asp Asp Gly Pro  
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 Ala Val Glu Arg Pro Ser Thr Glu Leu  
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 caccaaggga aatgagttcc ctttctccag cctctaaccg tctgggaacc catcctgatt 180  
 cccattgcca gtggagaagg tctcccctgg tgaagacttc gggagaacat gggagatgga 240  
 aatacattta ggagccggga tgcttcatct ggggtttaag agatcccat tgagcaa atg 300  
 Met  
 1

agg aaa ccg agg ctc agt agg tgc cat gat tcc cca agc tca caa aat 348  
 Arg Lys Pro Arg Leu Ser Arg Cys His Asp Ser Pro Ser Ser Gln Asn  
 5 10 15

aca tgg tgg gcc cag gat ctg aac tca gtg aat ccc tgt tgt tac tat 396

Thr	Trp	Trp	Ala	Gln	Asp	Leu	Asn	Ser	Val	Asn	Pro	Cys	Cys	Tyr	Tyr	
			20				25					30				
cca	tgc	cag	cac	cag	ggc	atc	tgt	gtc	cgc	ttc	ggc	ctt	gac	cgc	tac	444
Pro	Cys	Gln	His	Gln	Gly	Ile	Cys	Val	Arg	Phe	Gly	Leu	Asp	Arg	Tyr	
		35				40				45						
cag	tgt	gac	tgc	acc	cgc	acg	ggc	tat	tcc	ggc	ccc	aac	tgc	acc	atc	492
Gln	Cys	Asp	Cys	Thr	Arg	Thr	Gly	Tyr	Ser	Gly	Pro	Asn	Cys	Thr	Ile	
	50				55				60						65	
cct	ggc	ctg	tgg	acc	tgg	ctc	cgg	aat	tca	ctg	cgg	ccc	agc	ccc	tct	540
Pro	Gly	Leu	Trp	Thr	Trp	Leu	Arg	Asn	Ser	Leu	Arg	Pro	Ser	Pro	Ser	
				70					75						80	
ttc	acc	cac	ttc	ctg	ctc	act	cac	ggg	cgc	tgg	ttc	tgg	gag	ttt	gtc	588
Phe	Thr	His	Phe	Leu	Leu	Thr	His	Gly	Arg	Trp	Phe	Trp	Glu	Phe	Val	
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aat	gcc	acc	ttc	atc	cga	gag	atg	ctc	atg	cgc	ctg	gta	ctc	aca	gtg	636
Asn	Ala	Thr	Phe	Ile	Arg	Glu	Met	Leu	Met	Arg	Leu	Val	Leu	Thr	Val	
		100					105					110				
cgc	tcc	aac	ctt	atc	ccc	agt	ccc	ccc	acc	tac	aac	tca	gca	cat	gac	684
Arg	Ser	Asn	Leu	Ile	Pro	Ser	Pro	Pro	Thr	Tyr	Asn	Ser	Ala	His	Asp	
	115					120				125						
tac	atc	agc	tgg	gag	tct	ttc	tcc	aac	gtg	agc	tat	tac	act	cgt	att	732
Tyr	Ile	Ser	Trp	Glu	Ser	Phe	Ser	Asn	Val	Ser	Tyr	Tyr	Thr	Arg	Ile	
	130				135				140						145	
ctg	ccc	tct	gtg	cct	aaa	gat	tgc	ccc	aca	ccc	atg	gga	acc	aaa	ggg	780
Leu	Pro	Ser	Val	Pro	Lys	Asp	Cys	Pro	Thr	Pro	Met	Gly	Thr	Lys	Gly	
			150					155						160		
aag	aag	cag	ttg	cca	gat	gcc	cag	ctc	ctg	gcc	cgc	cgc	ttc	ctg	ctc	828
Lys	Lys	Gln	Leu	Pro	Asp	Ala	Gln	Leu	Leu	Ala	Arg	Arg	Phe	Leu	Leu	
		165					170						175			
agg	agg	aag	ttc	ata	cct	gac	ccc	caa	ggc	acc	aac	ctc	atg	ttt	gcc	876
Arg	Arg	Lys	Phe	Ile	Pro	Asp	Pro	Gln	Gly	Thr	Asn	Leu	Met	Phe	Ala	
		180				185					190					
ttc	ttt	gca	caa	cac	ttc	acc	cac	cag	ttc	ttc	aaa	act	tct	ggc	aag	924
Phe	Phe	Ala	Gln	His	Phe	Thr	His	Gln	Phe	Phe	Lys	Thr	Ser	Gly	Lys	
	195					200					205					
atg	ggc	cct	ggc	ttc	acc	aag	gcc	ttg	ggc	cat	ggg	gta	gac	ctc	ggc	972
Met	Gly	Pro	Gly	Phe	Thr	Lys	Ala	Leu	Gly	His	Gly	Val	Asp	Leu	Gly	
	210				215				220						225	
cac	att	tat	gga	gac	aat	ctg	gag	cgt	cag	tat	caa	ctg	cgg	ctc	ttt	1020
His	Ile	Tyr	Gly	Asp	Asn	Leu	Glu	Arg	Gln	Tyr	Gln	Leu	Arg	Leu	Phe	
			230					235						240		

aag gat ggg aaa ctc aag tac cag gtg ctg gat gga gaa atg tac ccg	1068
Lys Asp Gly Lys Leu Lys Tyr Gln Val Leu Asp Gly Glu Met Tyr Pro	
245 250 255	
ccc tcg gta gaa gag gcg cct gtg ttg atg cac tac ccc cga ggc atc	1116
Pro Ser Val Glu Glu Ala Pro Val Leu Met His Tyr Pro Arg Gly Ile	
260 265 270	
ccg ccc cag agc cag atg gct gtg ggc cag gag gtg ttt ggg ctg ctt	1164
Pro Pro Gln Ser Gln Met Ala Val Gly Gln Glu Val Phe Gly Leu Leu	
275 280 285	
cct ggg ctc atg ctg tat gcc acg ctc tgg cta cgt gag cac aac cgt	1212
Pro Gly Leu Met Leu Tyr Ala Thr Leu Trp Leu Arg Glu His Asn Arg	
290 295 300 305	
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Val Cys Asp Leu Leu Lys Ala Glu His Pro Thr Trp Gly Asp Glu Gln	
310 315 320	
ctt ttc cag acg acc cgc ctc atc ctc ata ggg gag acc atc aag att	1308
Leu Phe Gln Thr Thr Arg Leu Ile Leu Ile Gly Glu Thr Ile Lys Ile	
325 330 335	
gtc atc gag gag tac gtg cag cag ctg agt ggc tat ttc ctg cag ctg	1356
Val Ile Glu Glu Tyr Val Gln Gln Leu Ser Gly Tyr Phe Leu Gln Leu	
340 345 350	
aaa ttt gac cca gag ctg ctg ttc ggt gtc cag ttc caa tac cgc aac	1404
Lys Phe Asp Pro Glu Leu Leu Phe Gly Val Gln Phe Gln Tyr Arg Asn	
355 360 365	
cgc att gcc atg gag ttc aac cat ctc tac cac tgg cac ccc ctc atg	1452
Arg Ile Ala Met Glu Phe Asn His Leu Tyr His Trp His Pro Leu Met	
370 375 380 385	
cct gac tcc ttc aag gtg ggc tcc cag gag tac agc tac gag cag ttc	1500
Pro Asp Ser Phe Lys Val Gly Ser Gln Glu Tyr Ser Tyr Glu Gln Phe	
390 395 400	
ttg ttc aac acc tcc atg ttg gtg gac tat ggg gtt gag gcc ctg gtg	1548
Leu Phe Asn Thr Ser Met Leu Val Asp Tyr Gly Val Glu Ala Leu Val	
405 410 415	
gat gcc ttc tct cgc cag att gct ggc cgg atc ggt ggg ggc agg aac	1596
Asp Ala Phe Ser Arg Gln Ile Ala Gly Arg Ile Gly Gly Gly Arg Asn	
420 425 430	
atg gac cac cac atc ctg cat gtg gct gtg gat gtc atc agg gag tct	1644
Met Asp His His Ile Leu His Val Ala Val Asp Val Ile Arg Glu Ser	
435 440 445	
cgg gag atg cgg ctg cag ccc ttc aat gag tac cgc aag agg ttt ggc	1692
Arg Glu Met Arg Leu Gln Pro Phe Asn Glu Tyr Arg Lys Arg Phe Gly	
450 455 460 465	

atg aaa ccc tac acc tcc ttc cag gag ctc gta gga gag aag gag atg 1740  
 Met Lys Pro Tyr Thr Ser Phe Gln Glu Leu Val Gly Glu Lys Glu Met  
                     470                    475                    480

gca gca gag ttg gag gaa ttg tat gga gac att gat gcg ttg gag ttc 1788  
 Ala Ala Glu Leu Glu Glu Leu Tyr Gly Asp Ile Asp Ala Leu Glu Phe  
                     485                    490                    495

tac cct gga ctg ctt ctt gaa aag tgc cat cca aac tct atc ttt ggg 1836  
 Tyr Pro Gly Leu Leu Leu Glu Lys Cys His Pro Asn Ser Ile Phe Gly  
                     500                    505                    510

gag agt atg ata gag att ggg gct ccc ttt tcc ctc aag ggt ctc cta 1884  
 Glu Ser Met Ile Glu Ile Gly Ala Pro Phe Ser Leu Lys Gly Leu Leu  
                     515                    520                    525

ggg aat ccc atc tgt tct ccg gag tac tgg aag ccg agc aca ttt ggc 1932  
 Gly Asn Pro Ile Cys Ser Pro Glu Tyr Trp Lys Pro Ser Thr Phe Gly  
                     530                    535                    540                    545

ggc gag gtg ggc ttt aac att gtc aag acg gcc aca ctg aag aag ctg 1980  
 Gly Glu Val Gly Phe Asn Ile Val Lys Thr Ala Thr Leu Lys Lys Leu  
                     550                    555                    560

gtc tgc ctc aac acc aag acc tgt ccc tac gtt tcc ttc cgt gtg ccg 2028  
 Val Cys Leu Asn Thr Lys Thr Cys Pro Tyr Val Ser Phe Arg Val Pro  
                     565                    570                    575

gat gcc agt cag gat gat ggg cct gct gtg gag cga cca tcc aca gag 2076  
 Asp Ala Ser Gln Asp Asp Gly Pro Ala Val Glu Arg Pro Ser Thr Glu  
                     580                    585                    590

ctc tga ggggcaggaa agcagcattc tggaggggag agctttgtgc ttgtcattcc 2132  
 Leu \*

agagtgtga ggccagggct gatggtctta aatgctcatt ttctggtttg gcatggtgag 2192  
 tgttgggggtt gacatttaga actttaagtc tcacccatta tctggaatat tgtgattctg 2252  
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<211> 594

<212> PRT

<213> Homo sapiens

<400> 8

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 Asn Thr Trp Trp Ala Gln Asp Leu Asn Ser Val Asn Pro Cys Cys Tyr  
                     20                    25                    30  
 Tyr Pro Cys Gln His Gln Gly Ile Cys Val Arg Phe Gly Leu Asp Arg  
                     35                    40                    45  
 Tyr Gln Cys Asp Cys Thr Arg Thr Gly Tyr Ser Gly Pro Asn Cys Thr  
                     50                    55                    60



Ile	Pro	Gly	Leu	Trp	Thr	Trp	Leu	Arg	Asn	Ser	Leu	Arg	Pro	Ser	Pro	65	70	75	80
Ser	Phe	Thr	His	Phe	Leu	Leu	Thr	His	Gly	Arg	Trp	Phe	Trp	Glu	Phe	85	90	95	
Val	Asn	Ala	Thr	Phe	Ile	Arg	Glu	Met	Leu	Met	Arg	Leu	Val	Leu	Thr	100	105	110	
Val	Arg	Ser	Asn	Leu	Ile	Pro	Ser	Pro	Pro	Thr	Tyr	Asn	Ser	Ala	His	115	120	125	
Asp	Tyr	Ile	Ser	Trp	Glu	Ser	Phe	Ser	Asn	Val	Ser	Tyr	Tyr	Thr	Arg	130	135	140	
Ile	Leu	Pro	Ser	Val	Pro	Lys	Asp	Cys	Pro	Thr	Pro	Met	Gly	Thr	Lys	145	150	155	160
Gly	Lys	Lys	Gln	Leu	Pro	Asp	Ala	Gln	Leu	Leu	Ala	Arg	Arg	Phe	Leu	165	170	175	
Leu	Arg	Arg	Lys	Phe	Ile	Pro	Asp	Pro	Gln	Gly	Thr	Asn	Leu	Met	Phe	180	185	190	
Ala	Phe	Phe	Ala	Gln	His	Phe	Thr	His	Gln	Phe	Phe	Lys	Thr	Ser	Gly	195	200	205	
Lys	Met	Gly	Pro	Gly	Phe	Thr	Lys	Ala	Leu	Gly	His	Gly	Val	Asp	Leu	210	215	220	
Gly	His	Ile	Tyr	Gly	Asp	Asn	Leu	Glu	Arg	Gln	Tyr	Gln	Leu	Arg	Leu	225	230	235	240
Phe	Lys	Asp	Gly	Lys	Leu	Lys	Tyr	Gln	Val	Leu	Asp	Gly	Glu	Met	Tyr	245	250	255	
Pro	Pro	Ser	Val	Glu	Glu	Ala	Pro	Val	Leu	Met	His	Tyr	Pro	Arg	Gly	260	265	270	
Ile	Pro	Pro	Gln	Ser	Gln	Met	Ala	Val	Gly	Gln	Glu	Val	Phe	Gly	Leu	275	280	285	
Leu	Pro	Gly	Leu	Met	Leu	Tyr	Ala	Thr	Leu	Trp	Leu	Arg	Glu	His	Asn	290	295	300	
Arg	Val	Cys	Asp	Leu	Leu	Lys	Ala	Glu	His	Pro	Thr	Trp	Gly	Asp	Glu	305	310	315	320
Gln	Leu	Phe	Gln	Thr	Thr	Arg	Leu	Ile	Leu	Ile	Gly	Glu	Thr	Ile	Lys	325	330	335	
Ile	Val	Ile	Glu	Glu	Tyr	Val	Gln	Gln	Leu	Ser	Gly	Tyr	Phe	Leu	Gln	340	345	350	
Leu	Lys	Phe	Asp	Pro	Glu	Leu	Leu	Phe	Gly	Val	Gln	Phe	Gln	Tyr	Arg	355	360	365	
Asn	Arg	Ile	Ala	Met	Glu	Phe	Asn	His	Leu	Tyr	His	Trp	His	Pro	Leu	370	375	380	
Met	Pro	Asp	Ser	Phe	Lys	Val	Gly	Ser	Gln	Glu	Tyr	Ser	Tyr	Glu	Gln	385	390	395	400
Phe	Leu	Phe	Asn	Thr	Ser	Met	Leu	Val	Asp	Tyr	Gly	Val	Glu	Ala	Leu	405	410	415	
Val	Asp	Ala	Phe	Ser	Arg	Gln	Ile	Ala	Gly	Arg	Ile	Gly	Gly	Gly	Arg	420	425	430	
Asn	Met	Asp	His	His	Ile	Leu	His	Val	Ala	Val	Asp	Val	Ile	Arg	Glu	435	440	445	
Ser	Arg	Glu	Met	Arg	Leu	Gln	Pro	Phe	Asn	Glu	Tyr	Arg	Lys	Arg	Phe	450	455	460	
Gly	Met	Lys	Pro	Tyr	Thr	Ser	Phe	Gln	Glu	Leu	Val	Gly	Glu	Lys	Glu	465	470	475	480
Met	Ala	Ala	Glu	Leu	Glu	Glu	Leu	Tyr	Gly	Asp	Ile	Asp	Ala	Leu	Glu	485	490	495	
Phe	Tyr	Pro	Gly	Leu	Leu	Leu	Glu	Lys	Cys	His	Pro	Asn	Ser	Ile	Phe				

	500		505		510										
Gly	Glu	Ser	Met	Ile	Glu	Ile	Gly	Ala	Pro	Phe	Ser	Leu	Lys	Gly	Leu
	515						520					525			
Leu	Gly	Asn	Pro	Ile	Cys	Ser	Pro	Glu	Tyr	Trp	Lys	Pro	Ser	Thr	Phe
	530						535					540			
Gly	Gly	Glu	Val	Gly	Phe	Asn	Ile	Val	Lys	Thr	Ala	Thr	Leu	Lys	Lys
545					550				555					560	
Leu	Val	Cys	Leu	Asn	Thr	Lys	Thr	Cys	Pro	Tyr	Val	Ser	Phe	Arg	Val
			565						570				575		
Pro	Asp	Ala	Ser	Gln	Asp	Asp	Gly	Pro	Ala	Val	Glu	Arg	Pro	Ser	Thr
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Glu	Leu														

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 cccagcagcc gcgcc atg agc cgg agt ctc ttg ctc tgg ttc ttg ctg ttc 171  
 Met Ser Arg Ser Leu Leu Leu Trp Phe Leu Leu Phe  
 1 5 10

ctg ctc ctg ctc ccg ccg ctc ccc gtc ctg ctc gcg gac cca ggg gcg 219  
 Leu Leu Leu Leu Pro Pro Leu Pro Val Leu Leu Ala Asp Pro Gly Ala  
 15 20 25

ccc acg cca gtg aat ccc tgt tgt tac tat cca tgc cag cac cag ggc 267  
 Pro Thr Pro Val Asn Pro Cys Cys Tyr Tyr Pro Cys Gln His Gln Gly  
 30 35 40

atc tgt gtc cgc ttc ggc ctt gac cgc tac cag tgt gac tgc acc cgc 315  
 Ile Cys Val Arg Phe Gly Leu Asp Arg Tyr Gln Cys Asp Cys Thr Arg  
 45 50 55 60

acg ggc tat tcc ggc ccc aac tgc acc atc cct ggc ctg tgg acc tgg 363  
 Thr Gly Tyr Ser Gly Pro Asn Cys Thr Ile Pro Gly Leu Trp Thr Trp  
 65 70 75

ctc cgg aat tca ctg cgg ccc agc ccc tct ttc acc cac ttc ctg ctc 411  
 Leu Arg Asn Ser Leu Arg Pro Ser Pro Ser Phe Thr His Phe Leu Leu  
 80 85 90

act cac ggg cgc tgg ttc tgg gag ttt gtc aat gcc acc ttc atc cga 459  
 Thr His Gly Arg Trp Phe Trp Glu Phe Val Asn Ala Thr Phe Ile Arg  
 95 100 105

gag atg ctc atg cgc ctg gta ctc aca gtg cgc tcc aac ctt atc ccc	507
Glu Met Leu Met Arg Leu Val Leu Thr Val Arg Ser Asn Leu Ile Pro	
110 115 120	
agt ccc ccc acc tac aac tca gca cat gac tac atc agc tgg gag tct	555
Ser Pro Pro Thr Tyr Asn Ser Ala His Asp Tyr Ile Ser Trp Glu Ser	
125 130 135 140	
ttc tcc aac gtg agc tat tac act cgt att ctg ccc tct gtg cct aaa	603
Phe Ser Asn Val Ser Tyr Tyr Thr Arg Ile Leu Pro Ser Val Pro Lys	
145 150 155	
gat tgc ccc aca ccc atg gga acc aaa ggg aag aag cag ttg cca gat	651
Asp Cys Pro Thr Pro Met Gly Thr Lys Gly Lys Lys Gln Leu Pro Asp	
160 165 170	
gcc cag ctc ctg gcc cgc cgc ttc ctg ctc agg agg aag ttc ata cct	699
Ala Gln Leu Leu Ala Arg Arg Phe Leu Leu Arg Arg Lys Phe Ile Pro	
175 180 185	
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Gly Pro Asn Cys Thr Ile Pro Gly Leu Trp Thr Trp Leu Arg Asn Ser
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Trp Phe Trp Glu Phe Val Asn Ala Thr Phe Ile Arg Glu Met Leu Met
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Tyr Asn Ser Ala His Asp Tyr Ile Ser Trp Glu Ser Phe Ser Asn Val
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Leu Leu Val Glu Lys Pro Arg Pro Asp Ala Ile Phe Gly Glu Thr Met			
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Val Glu Val Gly Ala Pro Phe Ser Leu Lys Gly Leu Met Gly Asn Val			
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ata tgt tct cct gcc tac tgg aag cca agc act ttt ggt gga gaa gtg			1754
Ile Cys Ser Pro Ala Tyr Trp Lys Pro Ser Thr Phe Gly Gly Glu Val			
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ggt ttt caa atc atc aac act gcc tca att cag tct ctc atc tgc aat			1802
Gly Phe Gln Ile Ile Asn Thr Ala Ser Ile Gln Ser Leu Ile Cys Asn			
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aac gtg aag ggc tgt ccc ttt act tca ttc agt gtt cca gat cca gag			1850
Asn Val Lys Gly Cys Pro Phe Thr Ser Phe Ser Val Pro Asp Pro Glu			
560	565	570	
ctc att aaa aca gtc acc atc aat gca agt tct tcc cgc tcc gga cta			1898
Leu Ile Lys Thr Val Thr Ile Asn Ala Ser Ser Ser Arg Ser Gly Leu			
575	580	585	
gat gat atc aat ccc aca gta cta cta aaa gaa cgt tcg act gaa ctg			1946
Asp Asp Ile Asn Pro Thr Val Leu Leu Lys Glu Arg Ser Thr Glu Leu			
590	595	600	
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             20             25             30
Met Ser Val Gly Phe Asp Gln Tyr Lys Cys Asp Cys Thr Arg Thr Gly
             35             40             45
Phe Tyr Gly Glu Asn Cys Ser Thr Pro Glu Phe Leu Thr Arg Ile Lys

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50	55	60													
Leu Phe Leu Lys Pro Thr	Pro Asn Thr Val His Tyr Ile Leu Thr His														
65	70	75	80												
Phe Lys Gly Phe Trp Asn Val Val Asn Asn Ile Pro Phe Leu Arg Asn															
	85	90	95												
Ala Ile Met Ser Tyr Val Leu Thr Ser Arg Ser His Leu Ile Asp Ser															
	100	105	110												
Pro Pro Thr Tyr Asn Ala Asp Tyr Gly Tyr Lys Ser Trp Glu Ala Phe															
	115	120	125												
Ser Asn Leu Ser Tyr Tyr Thr Arg Ala Leu Pro Pro Val Pro Asp Asp															
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Cys Pro Thr Pro Leu Gly Val Lys Gly Lys Lys Gln Leu Pro Asp Ser															
145	150	155	160												
Asn Glu Ile Val Glu Lys Leu Leu Leu Arg Arg Lys Phe Ile Pro Asp															
	165	170	175												
Pro Gln Gly Ser Asn Met Met Phe Ala Phe Phe Ala Gln His Phe Thr															
	180	185	190												
His Gln Phe Phe Lys Thr Asp His Lys Arg Gly Pro Ala Phe Thr Asn															
	195	200	205												
Gly Leu Gly His Gly Val Asp Leu Asn His Ile Tyr Gly Glu Thr Leu															
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Gln Ile Ile Asp Gly Glu Met Tyr Pro Pro Thr Val Lys Asp Thr Gln															
	245	250	255												
Ala Glu Met Ile Tyr Pro Pro Gln Val Pro Glu His Leu Arg Phe Ala															
	260	265	270												
Val Gly Gln Glu Val Phe Gly Leu Val Pro Gly Leu Met Met Tyr Ala															
	275	280	285												
Thr Ile Trp Leu Arg Glu His Asn Arg Val Cys Asp Val Leu Lys Gln															
	290	295	300												
Glu His Pro Glu Trp Gly Asp Glu Gln Leu Phe Gln Thr Ser Arg Leu															
305	310	315	320												
Ile Leu Ile Gly Glu Thr Ile Lys Ile Val Ile Glu Asp Tyr Val Gln															
	325	330	335												
His Leu Ser Gly Tyr His Phe Lys Leu Lys Phe Asp Pro Glu Leu Leu															
	340	345	350												
Phe Asn Lys Gln Phe Gln Tyr Gln Asn Arg Ile Ala Ala Glu Phe Asn															
	355	360	365												
Thr Leu Tyr His Trp His Pro Leu Leu Pro Asp Thr Phe Gln Ile His															
	370	375	380												
Asp Gln Lys Tyr Asn Tyr Gln Gln Phe Ile Tyr Asn Asn Ser Ile Leu															
385	390	395	400												
Leu Glu His Gly Ile Thr Gln Phe Val Glu Ser Phe Thr Arg Gln Ile															
	405	410	415												
Ala Gly Arg Val Ala Gly Gly Arg Asn Val Pro Pro Ala Val Gln Lys															
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	435	440	445												
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Glu Glu Leu Thr Gly Glu Lys Glu Met Ser Ala Glu Leu Glu Ala Leu															
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Tyr Gly Asp Ile Asp Ala Val Glu Leu Tyr Pro Ala Leu Leu Val Glu															
	485	490	495												

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